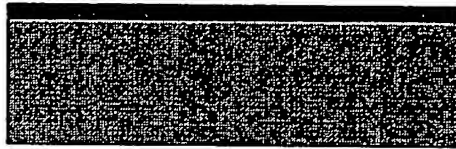


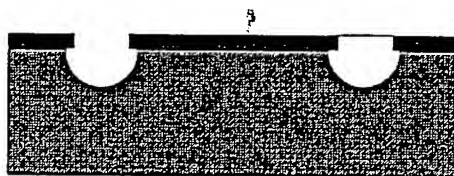
1. Start Substrate Wafer



2. Deposit Masking Material

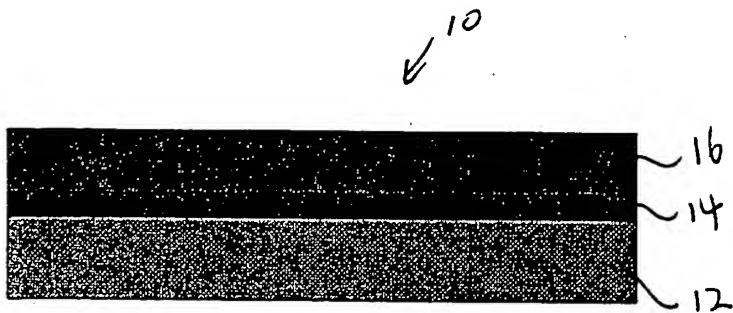


3. Pattern Masking Material

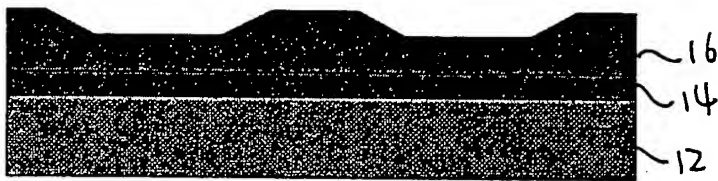


4. Etch Substrate Wafer

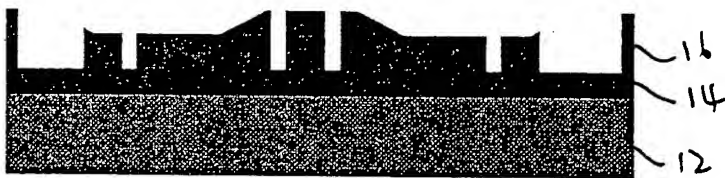
FIG. 1
PRIOR ART MICROFABRICATION PROCESS



(a) Starting SOI wafer

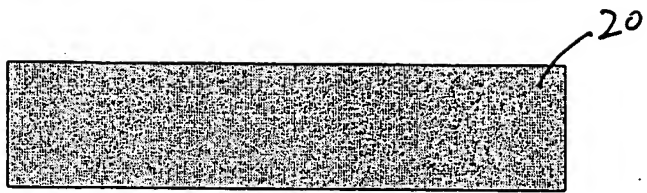


(b) Mesa Etch



(c) Structural Etch

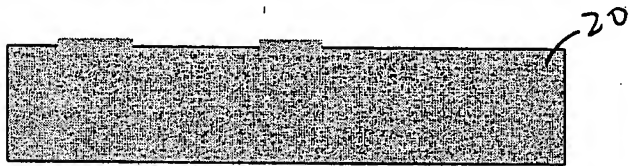
FIG. 2
PROCESS STEPS PRIOR TO SUBSTRATE BONDING



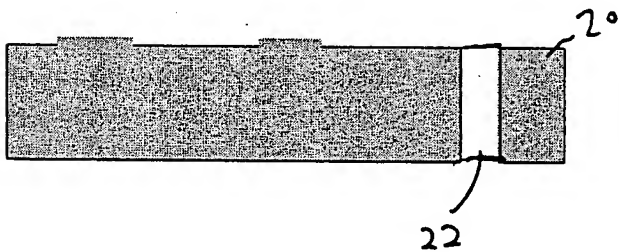
(a) Starting glass substrate



(b) Recess etch glass



(c) Sputter and liftoff
metal



(d) Drill access port in
glass

FIG. 3
PROCESS STEPS FOR GLASS SUBSTRATE

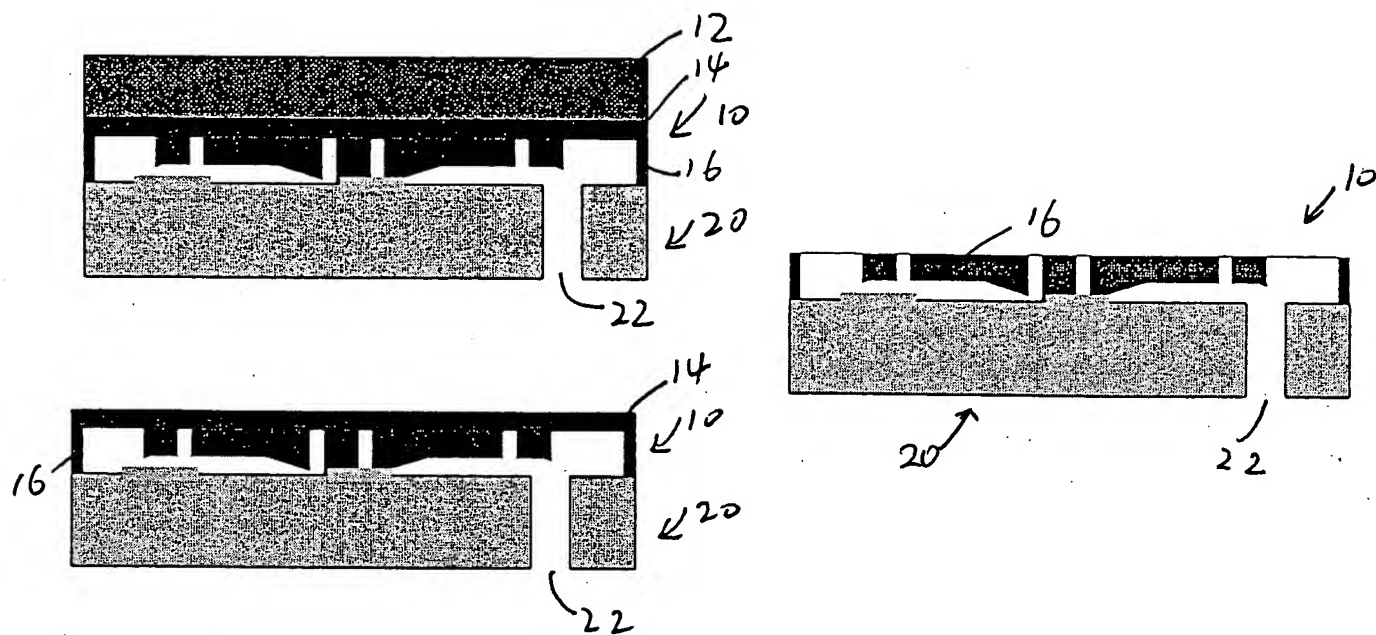


FIG. 4
BONDING, WAFER THINNING AND OXIDE DIELECTRIC REMOVAL

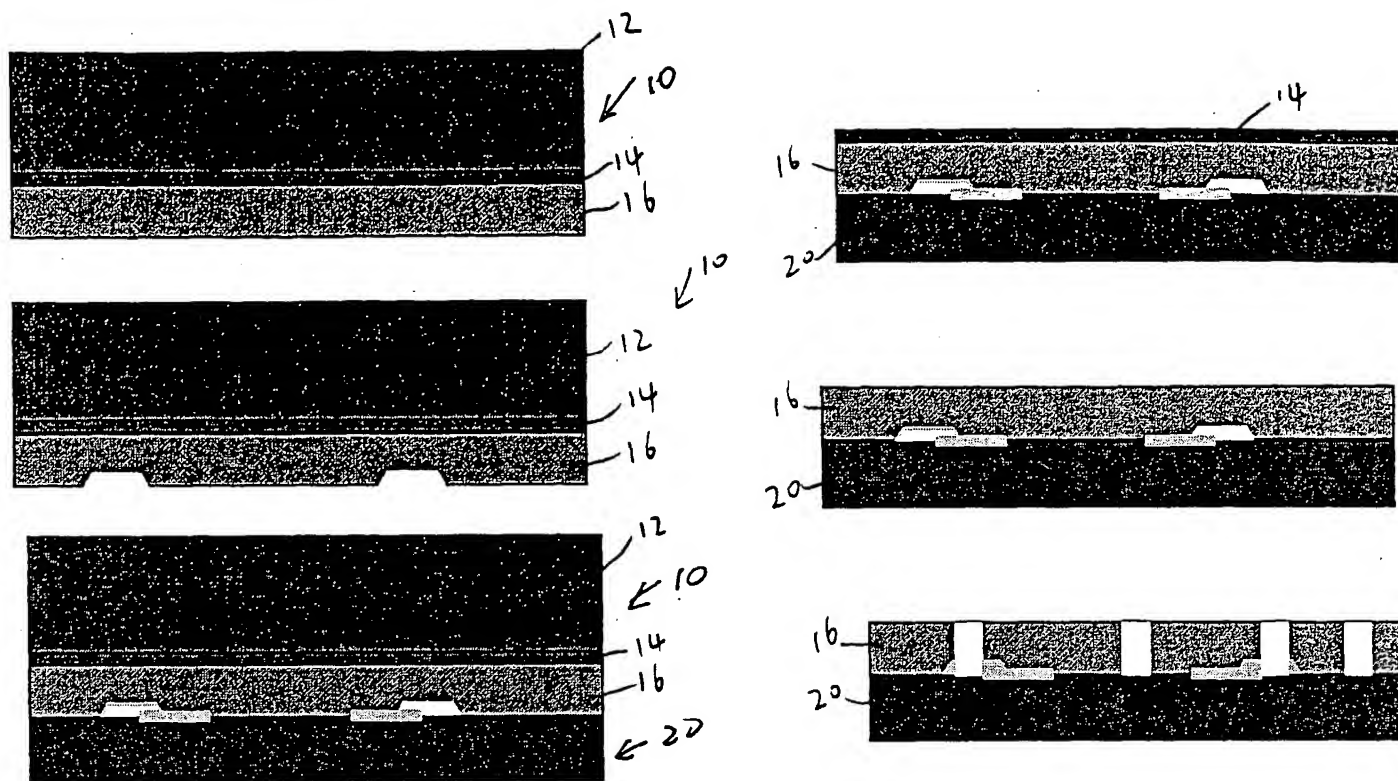


FIG. 5
BASELINE BESOI PROCESS SEQUENCE.

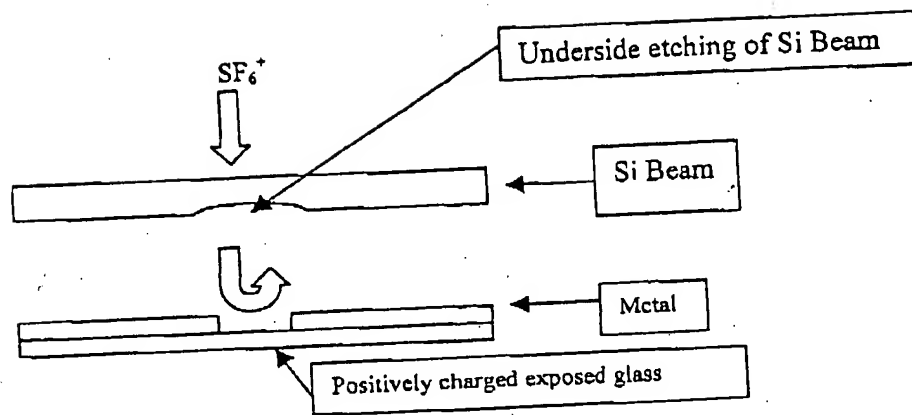


FIG. 6A (PRIOR ART)

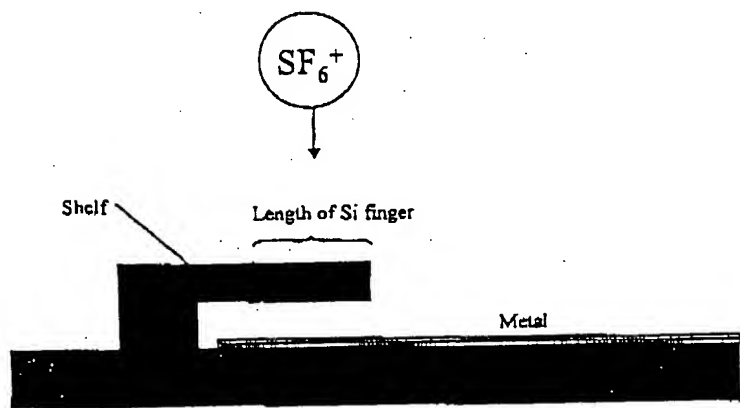


FIG. 6B

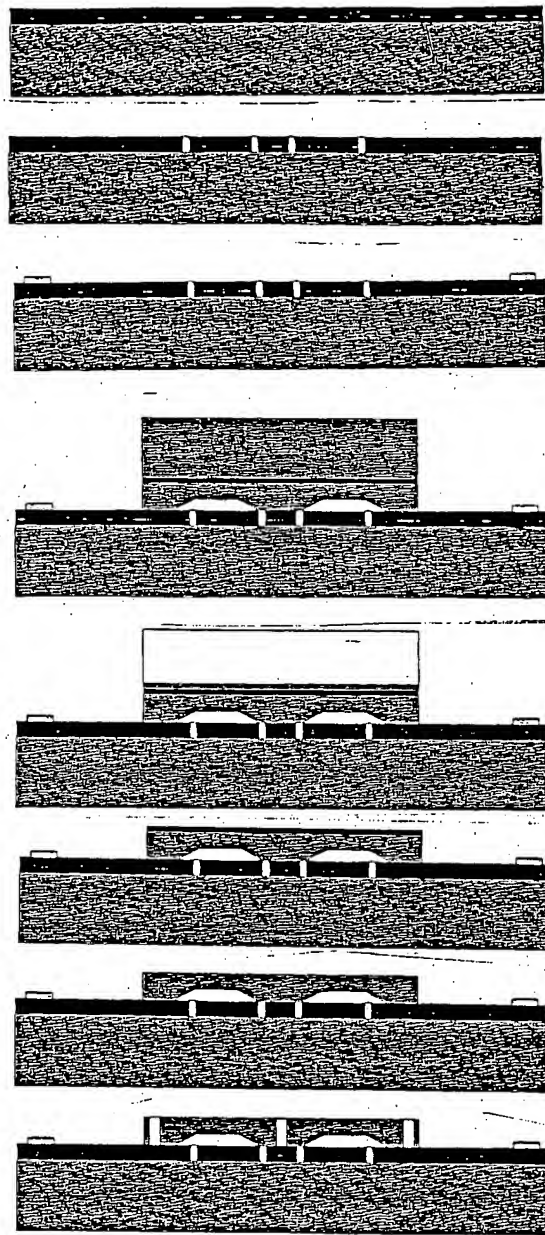


FIG. 7

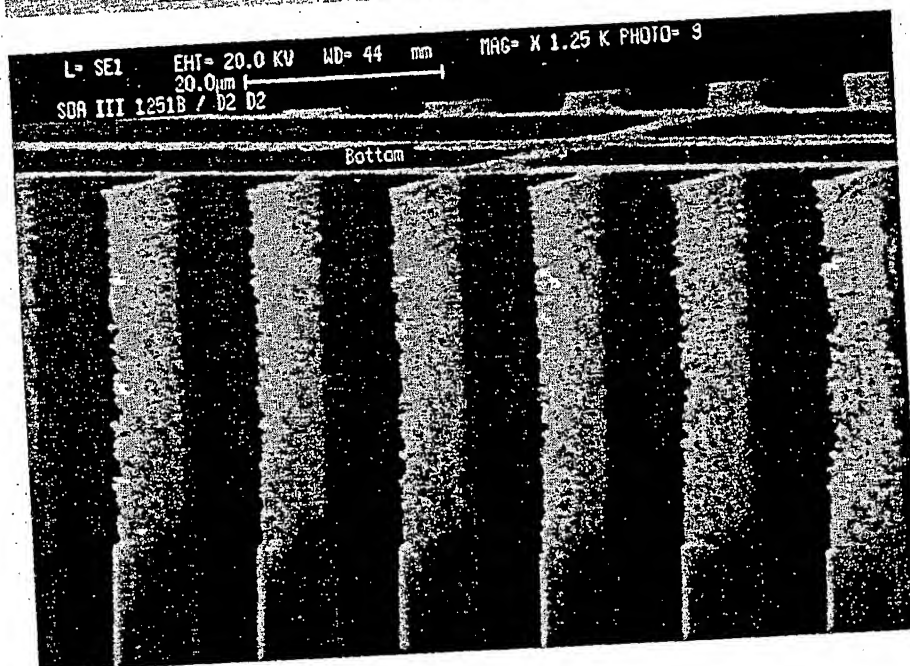
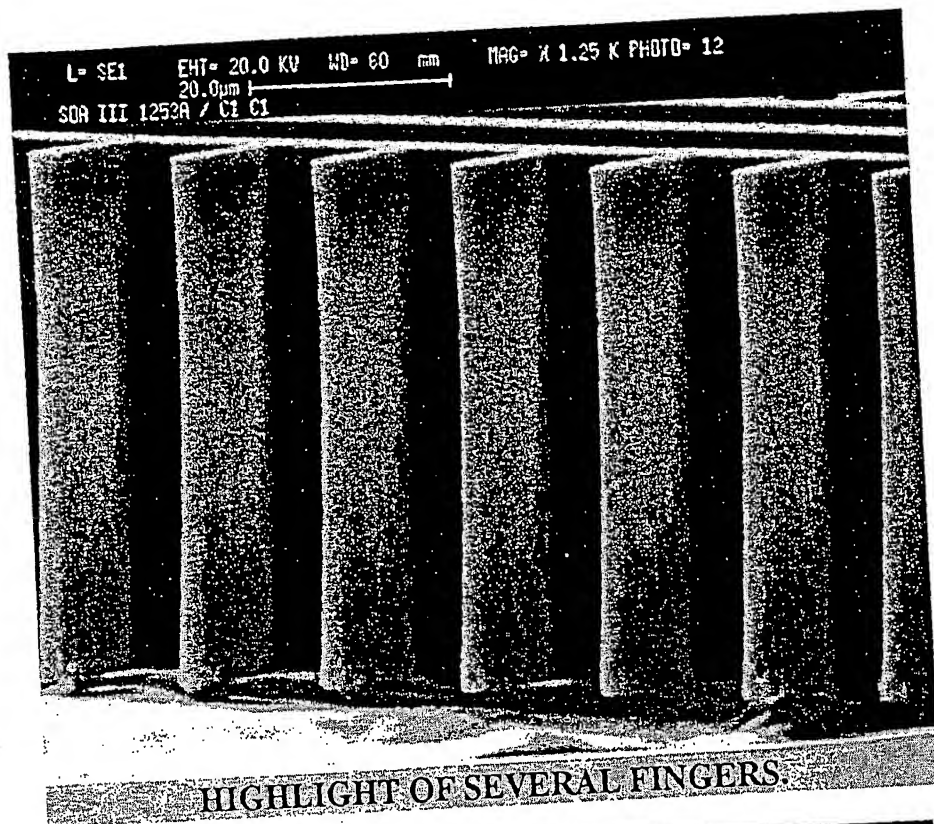


FIG. 8
 (a) EPITAXIAL COMB FINGERS.
 (a) BASELINE BESOI COMB FINGERS

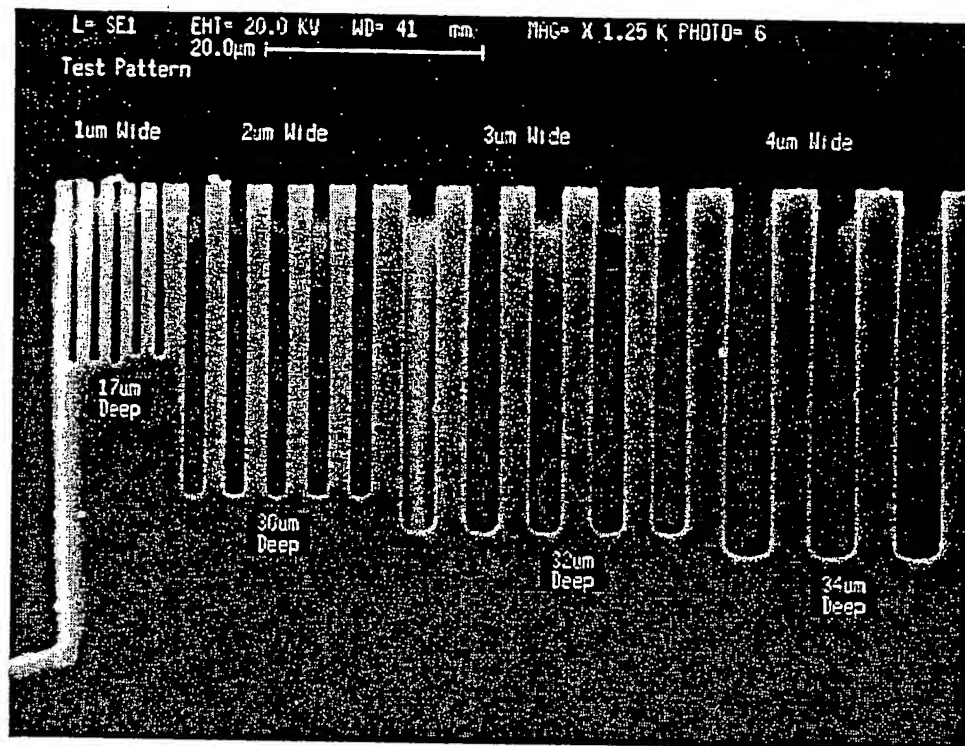


FIG. 9
PHENOMENON OF RIE LAG, WHERE NARROW TRENCHES ETCH MORE SLOWLY